



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0690; Project Identifier AD-2021-01360-E; Amendment 39-22167; AD 2022-18-16]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turboshift Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all General Electric Company (GE) CT7-8A model turboshift engines. This AD was prompted by the manufacturer revising the airworthiness limitations section (ALS) of the existing engine maintenance manual (EMM) to incorporate reduced life limits for certain stage 1 turbine aft cooling plates, stage 2 turbine forward cooling plates, turbine interstage seals, and stage 4 turbine disks. This AD requires revising the ALS of the existing EMM and the operator's existing approved maintenance or inspection program, as applicable, to incorporate reduced life limits for these parts. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0690; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC

20590.

FOR FURTHER INFORMATION CONTACT: Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: Sungmo.D.Cho@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all GE CT7-8A model turboshaft engines. The NPRM published in the *Federal Register* on June 21, 2022 (87 FR 36781). The NPRM was prompted by the manufacturer revising the ALS of the existing EMM to incorporate reduced life limits for certain stage 1 turbine aft cooling plates, stage 2 turbine forward cooling plates, turbine interstage seals, and stage 4 turbine disks (life-limited parts) installed on CT7-8A model turboshaft engines. Additionally, the manufacturer published service information that introduced the reduced life limits. The life limits were reduced by the manufacturer as the result of an analysis of the life management models for these parts. In the NPRM, the FAA proposed to require revising the ALS of the applicable GE CT7-8 EMM and the operator's existing approved maintenance or inspection program, as applicable, to incorporate reduced life limits for certain life-limited parts. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received one comment, from Air Line Pilots Association, International (ALPA). ALPA supported the NPRM without change.

Conclusion

The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information

The FAA reviewed GE CT7-8 Service Bulletin 72-0062, Revision 01, dated December 22, 2021. This service information provides the reduced life limits for certain life-limited parts.

Costs of Compliance

The FAA estimates that this AD affects 126 engines installed on helicopters of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Revise ALS of EMM and the operator's existing approved maintenance or inspection program	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$10,710

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-18-16 General Electric Company: Amendment 39-22167; Docket No. FAA-2022-0690; Project Identifier AD-2021-01360-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company (GE) CT7-8A model turboshaft engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7240, Turbine Engine
Combustion Section; 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by the manufacturer revising the airworthiness limitations section (ALS) of the existing engine maintenance manual (EMM) to incorporate reduced life limits for certain stage 1 turbine aft cooling plates, stage 2 turbine forward cooling plates, turbine interstage seals, and stage 4 turbine disks. The FAA is issuing this AD to prevent failure of the stage 1 turbine aft cooling plates, stage 2 turbine forward cooling plates, turbine interstage seals, and stage 4 turbine disks. The unsafe condition, if not addressed, could result in uncontained part release, damage to the engine, damage to the helicopter, and possible loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 90 days after the effective date of this AD, revise the ALS of the existing GE CT7-8 Turboshift EMM and the operator's existing approved maintenance or inspection program, as applicable, by incorporating the following reduced life limits:

(i) For stage 1 turbine aft cooling plate, part number (P/N) 6064T09P02, change the life limit cycles from 6,600 cycles since new (CSN) to 4,900 CSN;

(ii) For stage 2 turbine forward cooling plate, P/N 4106T80P01, change the life limit cycles from 8,000 CSN to 7,200 CSN;

(iii) For turbine interstage seal, P/N 4111T86P03, change the life limit cycles from 29,200 CSN to 19,000 CSN; and

(iv) For stage 4 turbine disk, P/N 6068T32P04, change the life limit cycles from 24,100 CSN to 12,100 CSN.

(2) After performing the actions required by paragraph (g)(1) of this AD, except as provided in paragraph (h) of this AD, no alternative life limits may be approved.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

For more information about this AD, contact Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: Sungmo.D.Cho@faa.gov.

(j) Material Incorporated by Reference

None.

Issued on August 29, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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